

STANDARD FORM NO. 64

*Office Memorandum* • UNITED STATES GOVERNMENT  
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**TO :** Chief, R&D/EP

**DATE:** 18 December 1958

**FROM :** Chief, R&D/Lab

**SUBJECT:** / Evaluation of the Recorder/Reproducer, Magnetic Tape, CB-12  
(Project 2147)

An evaluation on the subject equipment was attempted by

[REDACTED]. Because of the various malfunctions encountered,  
the evaluation was suspended and the equipment returned to you.

[REDACTED] report is attached.

[REDACTED]

Attachment  
Recorder/Reproducer, Magnetic Tape, A&A

[REDACTED]

[REDACTED]

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Project Number 2147

Report No. 175C

18 December 1958

### RECORDER/REPRODUCER, MAGNETIC TAPE, CB-12

#### Analysis and Appraisal

1. A list of the various items that fail to gain approval follow:
  - a. The input power cable shorted. This trouble was corrected.
  - b. The drive motor failed to operate because of a loose contact on the 3600 cycle oscillator board. Emergency repairs were made in order to perform further tests.
  - c. The AC motor operation is intermittent.
  - d. The magnetic tape fails to stay on the drive capstan during the start period.
  - e. The "over-run" switch will not function.
  - f. The braking system fails to operate, thus causing the tape to wind in a reverse direction on the take-up reel.
  - g. Some of the printed circuit boards have heavy components mounted upon them, thus causing the boards to warp out of shape. This condition causes intermittent connections on the printed circuit board connectors when the unit is subjected to vibration.
  - h. The test tape, supplied to set the amplitude of the signal from the playback amplifiers, varies in signal amplitude so much that it is difficult to make a proper adjustment.
  - i. The greatest output signal was obtained at 200 ohms impedance instead of 1000 ohms stated in the specifications supplied (S-H Portable Tape Recorder No. 1).
  - j. The output of the 50 kc reference oscillator is badly distorted in the "record" position.

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- k. The recording on channel 1 is continuously modulated by a 250 kc frequency.
- l. Recordings cannot be made on channel 2 as a 215 cycle interfering signal (approximately a square wave) is continually present on the recorder output even when the tape transport is not moving.
- m. The output signal of channel 3 is low. An adjustment was attempted with little or no result.
- n. The unit requires the following currents at 6.0 V.

Amplifier	0.9 Ampere
Play position	5.0 Amperes
Record position	5.3 Amperes
Rewind position	11.0 Amperes
Start (auxilliary motor in operation)	13.0 Amperes

(Specification: The tape transport shall not require more than 4 amperes of current at 6 volts except for initial start and stop currents).

- o. A BNC power receptacle, identical to the BNC tape recorder amplifier input, is located in such a position on the control panel that it could easily be mistaken for an amplifier input.
2. The following items are acceptable:
- a. Flutter and Wow (channels 1 and 3)
  - b. Tape speed
  - c. Motor speed stability
  - d. Remote control (motor)
  - e. Dimensions (8 1/2" X 5" X 13")
- Specifications: 9" X 5" x 14"

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